

REMARKS

Applicants respectfully submit that all the claims presently on file are in condition for allowance, which action is earnestly solicited. The claims on file have been amended to more clearly point out the present invention.

THE CLAIMS

CLAIMS REJECTION UNDER 35 U.S.C. 103

A. The Rejection

Claims 1-4 were rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson (5,148,620), hereinafter referred to as "Nelson" in view of Ruger (2,898,693), hereinafter referred to as "Ruger", and further in view of Thompson (4,912,868), hereinafter referred to as "Thompson". Applicants respectfully traverse these rejections and submit that none of the cited references discloses the elements and features of the claims on file as a whole, whether considered individually or in combination with each other. To this end, Applicants respectfully submit the following arguments:

B. Legal Standards for Obviousness

The following legal authorities set the general legal standards in support of Applicants' position of non-obviousness, with emphasis added for added clarity:

- MPEP §2143.03, "All Claim Limitations Must Be Taught or Suggested: To establish prima facie obviousness of a claimed invention, **all the claim limitations must be taught or suggested by the prior art**. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). **"All words in a claim must be**

considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)."

- MPEP §2143.01, "The Prior Art Must Suggest The Desirability Of The Claimed Invention: There are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art." *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998) (**The combination of the references taught every element of the claimed invention, however without a motivation to combine, a rejection based on a prima facie case of obvious was held improper.**). The level of skill in the art cannot be relied upon to provide the suggestion to combine references. *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999).
- "**Obviousness cannot be established** by combining the teachings of the prior art to produce the claimed invention, **absent some teaching or suggestion** supporting the combination." *In re Fine*, 837 F.2d at 1075, 5 USPQ2d at 1598 (citing *ACS Hosp. Sys. v. Montefiore Hosp.*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984)). **What a reference teaches** and whether it teaches toward or **away from the claimed invention** are questions of fact. See *Raytheon Co. v. Roper Corp.*, 724 F.2d 951, 960-61, 220 USPQ 592, 599-600 (Fed. Cir. 1983), cert. denied, 469 U.S. 835, 83 L. Ed. 2d 69, 105 S. Ct. 127 (1984). "
- "When a rejection depends on a combination of prior art references, there must be **some teaching, suggestion, or motivation** to combine the references. See *In re Geiger*, 815 F.2d 686, 688, 2 USPQ2d 1276, 1278 (Fed. Cir. 1987)." **Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation** to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See MPEP 2143.01; *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000); *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).
- "With respect to core factual findings in a determination of patentability, however, the **Board cannot simply reach conclusions**

based on its own understanding or experience -- or on its assessment of what would be basic knowledge or common sense. **Rather, the Board must point to some concrete evidence in the record** in support of these findings." See *In re Zurko*, 258 F.3d 1379 (Fed. Cir. 2001).

- "We have noted that **evidence of a suggestion, teaching, or motivation to combine** may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved, see *Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1573, 37 USPQ2d 1626, 1630 (Fed. Cir. 1996), *Para-Ordinance Mfg. v. SGS Imports Intern., Inc.*, 73 F.3d 1085, 1088, 37 USPQ2d 1237, 1240 (Fed. Cir. 1995), although "the suggestion more often comes from the teachings of the pertinent references," *Rouffet*, 149 F.3d at 1355, 47 USPQ2d at 1456. The range of sources available, however, does not diminish the requirement for actual evidence. That is, **the showing must be clear and particular**. See, e.g., *C.R. Bard*, 157 F.3d at 1352, 48 USPQ2d at 1232. **Broad conclusory statements regarding the teaching of multiple references, standing alone, are not "evidence."** E.g., *McElmurry v. Arkansas Power & Light Co.*, 995 F.2d 1576, 1578, 27 USPQ2d 1129, 1131 (Fed. Cir. 1993) ("Mere denials and conclusory statements, however, are not sufficient to establish a genuine issue of material fact."); *In re Sichert*, 566 F.2d 1154, 1164, 196 USPQ 209, 217 (CCPA 1977)." See *In re Dembiczak*, 175 F.3d 994 (Fed. Cir. 1999).
- "To prevent the use of hindsight based on the invention to defeat patentability of the invention, **this court requires the examiner to show a motivation to combine the references** that create the case of obviousness. In other words, **the examiner must show reasons** that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references **for combination in the manner claimed**." See *In re Rouffet*, 149 F.3d 1350 (Fed. Cir. 1998).
- The mere fact that references can be combined or modified does not render the resultant combination obvious **unless the prior art also suggests the desirability of the combination**. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). Although a prior art device "may be capable of being modified to run the way the apparatus is claimed, **there must be a suggestion or motivation in the reference** to do so." 916 F.2d at 682, 16 USPQ2d at 1432.). See also *In re Fritch*, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992) (flexible landscape edging device which

is conformable to a ground surface of varying slope not suggested by combination of prior art references).

- If the **proposed modification would render the prior art invention being modified unsatisfactory** for its intended purpose, then there is no suggestion or motivation to make the proposed modification. In re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

C. Brief Summary of the Present Invention

Prior to presenting substantive arguments in favor of the allowability of the claims on file, it might be desirable to summarize the present invention in view of the problem it addresses.

An adapter device is provided for converting a grenade launcher into a weapon for firing shot shells. The adapter includes a single, integral elongate barrel member of a gauge for shot shell which is adapted to be received in, and extend through, the barrel of the host barrel assembly of the grenade launcher. A cap secures the barrel member in place in the host barrel assembly. A replacement barrel assembly for firing shot shells is also provided which includes a shell extractor for extracting shells from the replacement barrel.

The adapter or insert device of the present invention (FIGS. 1 and 2) includes **two basic components, a barrel insert 20** which includes a 12 gauge barrel portion 22 and is breech inserted, which barrel 20 extends through and beyond both ends of the host barrel, **and a barrel cap 24** which includes the threading indicated at 24a that is adapted to be threaded onto corresponding threading 20a on barrel insert 20. The barrel cap 24 includes a flange and a hollow circumferential step on one end to enable the cap to insert into the host grenade launcher barrel 12 and secure the tapered distal end 28 of barrel insert 20 inside the host barrel.

The barrel 22 in the two-component barrel insert is shown in FIGS. 1 and 2 to be a **single, integral barrel that extends through and beyond the barrel of the host grenade launcher barrel.** It has a first advantage of securing the taper shaped end of the barrel 22 to the breech side of the host barrel, and a second advantage of providing sufficient room for the cap 24 that inserts in the frontal end of the muzzle. The **single barrel** of the present invention **provides rigidity and integrity** to withstand the shock and vibration of firing the weapon.

D. Application of the Obviousness Standards

D.1. Neither Nelson nor Ruger discloses a single, integral adapter barrel that extends through and beyond both ends of the barrel.

Nelson generally describes an **adapter** in FIGS. 1 and 2 that includes a **cylindrical main body, which is inserted into the breech bore and a barrel which extends forwardly thereof into the gun barrel bore. The adapter barrel is releasably connected to the main body of the adapter by threads**, preferably with rectangular, non-stripping lands and grooves, or by a turn wing and slot arrangement. The front portion of the main body bore is recessed, so that when the barrel is in place in the main body the **bores of the main body and barrel abut each other and are concentric and of the same diameter.**

In Nelson, an adapter 10 includes an elongated cylindrical main body 12 of metal, ceramic, cermet, heavy duty plastic or the like durable material (FIG. 1) and a cylindrical extension barrel 14 of metal or the like. Main body 12 has a cylindrical bore 16 along and concentric with the longitudinal axis thereof extending from rear end 18 of body 12 through

rear portion 20 and on into front portion 22 thereof, exiting at front end 24 thereof.

Thus, Nelson does not disclose a single, integral adapter barrel that extends through and beyond both ends of the barrel.

Ruger generally describes a 22 caliber conversion for semi-automatic pistols. The barrel 8 has a threaded forward end 10, a small diameter portion 11 and a depending lug 12 which is driven into a slot 13 in the barrel and is accordingly secured in a fixed position. The nut 16 secures the receiver to the barrel. The threaded end 10 of the barrel projects beyond the forward end of the receiver and is secured in position by the nut 16.

Thus, Ruger does not disclose a single, integral adapter barrel that extends through and beyond both ends of the barrel.

As a result, contrary to the present invention, the hypothetical combination of Nelson and Ruger does not disclose a single, integral adapter barrel that extends through and beyond both ends of the barrel, and a cap that secures the adapter barrel to the host barrel. In such a hypothetical combination, the multiple segment barrel is joined together by threads, or alternatively by a turn wing and slot between segments, which do not provide the rigidity and integrity to withstand the shock and vibration of firing the weapon. A nut secures the distal segment of the adapter barrel to the host barrel or bore.

D.2. Neither Nelson nor Ruger discloses a barrel breech end with a tapered end.

The **present invention** describes a shell extractor 26 that is provided at the distal taper shaped end 28 of barrel insert 20. As shown in Figure 2, shell extractor 26 includes a shell extractor member 30 having a headed end 30a and a shaft portion 30b, extractor coil spring 32 which fits around shaft portion 30b and engages headed end 30a, and a retaining pin 34.

The extractor member 30 of shell extractor 26 is biased or powered by spring 32 at all times. **When the weapon is open for loading, the extractor member 30 is held in an open and rearward position by spring pressure.** This action will pull either a fired or unfired shell free from the chamber.

In contrast, **Thompson** generally describes a straight plug 58, as illustrated in FIG. 4, that includes an extractor 72 having a mounting pin 73 and an extractor spring 74 received in a bore 75 and retained therein by a set screw 78 accessible through hole 80 to enable restricted resilient movement of the extractor 72 which has an end portion 82 that is curved to fit the exterior periphery of the primer immediately inwardly of the flange on the primer whereby the spring 74 and extractor 72 will extract the primer a short distance, approximately 1/16", when the bolt is retracted in the receiver. The extractor moves by approximately 1/16" so that the **extractor will at all times stay within the milled notch or recess 76** formed in the rear face of the plug.

Contrary to the present invention, the extractor of Thompson will at all times stay within the milled notch or recess, indicating the spring is biased to pull the extractor in a closed position. In **the present invention**, the **extractor member 30 is held in an open and rearward position by spring**

bias, indicating the spring is biased to push the extractor in an open position.

While Thompson describes an extractor housed in a **straight plug**, the present invention describes an extractor disposed at the **tapered end** of the barrel.

D.3. Neither Nelson, Thompson, nor Ruger describes the present invention as a whole.

As presented earlier, neither Nelson, Thompson, Ruger, nor the combination thereof describes the following features of the present invention as recited in claim 1, in combination with the other features and limitations of claim 1:

1. A single integral elongate barrel member of a gauge for shot shell and adapted to be received in, and to extend through and beyond both ends of the barrel.
2. A shell extractor disposed at one a tapered end.

As described earlier, these two features provide important advantages to the present invention. Consequently, neither Thompson nor Ruger describes the present invention as a whole.

More specifically, the **hypothetical combination of Nelson, Ruger, and Thompson** would include a cylindrical main body that is inserted into the breech bore and a barrel which extends forwardly thereof into the gun barrel bore. The adapter barrel is releasably connected to the main body of the adapter by threads, with (for example) rectangular, non-stripping lands and grooves, or by a turn wing and slot arrangement. The front portion of the main body bore is recessed so that when the barrel is in

place in the main body the **bores of the main body and barrel abut each other and are concentric and of the same diameter.**

The main body of such a hypothetical combination would have a cylindrical bore along and concentric with the longitudinal axis thereof extending from rear end of body through rear portion and on into front portion, exiting at front end. A nut secures the gun barrel bore to the barrel. The threaded end of the barrel projects beyond the forward end of the gun barrel bore and is secured in position by the nut. A straight plug that includes an **extractor** having a mounting pin and an extractor spring received in a bore and retained therein by a **set screw** accessible through hole to enable restricted resilient movement of the extractor which has an end portion that is curved to fit the exterior periphery of the primer immediately inwardly of the flange on the primer whereby the spring and extractor will extract the primer a short distance, approximately 1/16", when the bolt is retracted in the receiver. The extractor moves only approximately 1/16" so that the **extractor will at all times stay within the milled notch or recess formed in the rear face of the plug.**

The hypothetical combination of **Nelson, Ruger, and Thompson produces a multiple segment barrel** that is joined together by threads, or alternatively by a turn wing and slot between segments, in contrast to a **single barrel** of the present invention.

In addition, in the hypothetical combination, the breech end of the barrel is **straight** and does not have a **taper shaped** end as in the present invention.

In the hypothetical combination, the extractor will at all times stay within the milled notch or recess. In the present invention, the extractor member is held in an open and rearward position by spring bias.

In the hypothetical combination, an extractor is housed in a straight plug, in contrast to the present invention where an extractor located at a tapered end of a barrel.

Consequently the hypothetical combination of Nelson, Ruger, and Thompson does not produce the same or similar product as the present invention, and claim 1 and the claims dependent thereon are not obvious in view of Nelson, Ruger, and Thompson, whether considered individually or in combination with each other.

CONCLUSION

All the claims presently on file in the present application are in condition for immediate allowance, and such action is respectfully requested. If it is felt for any reason that direct communication would serve to advance prosecution of this case to finality, the Examiner is invited to call the undersigned at the below-listed telephone number.

Respectfully submitted,

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